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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,587	09/19/2003	Jang Don Choi	11037-139-999	6437
24341	7590	02/09/2005	EXAMINER	
MORGAN, LEWIS & BOCKIUS, LLP. 2 PALO ALTO SQUARE 3000 EL CAMINO REAL PALO ALTO, CA 94306			HUNNINGS, TRAVIS R	
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/665,587

Applicant(s)

CHOI, JANG DON

Examiner

Travis R Hunnings

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7,8,10,12 and 14-16 is/are rejected.
- 7) ☒ Claim(s) 2,4,6,9,11 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/14/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al. (Ellis; US Patent 5,699,255) in view of Bottorf (US Patent 4,845,631).

Regarding claim 1, Ellis discloses *Map Transmission for In-Vehicle Navigation System with Dynamic Scale/Detail Adjustment* that has the following claimed limitations:

The claimed vehicle terminal is met by the in vehicle navigation system (col2 14-22);

The claimed map data transmitting server that is interconnected with the vehicle terminal through a wireless network is met by the base station (col2 14-22 and col4 49-55) whereby the vehicle terminal requests corresponding blocks/cells of map data from the transmitting server based on vehicle state information (current location or velocity) by transmitting device position or velocity information to the transmitting server;

However, Ellis did not specify the claimed vehicle terminal determining the range of cells of which cell data are required for navigation based on vehicle state information,

and requests the map data transmitting server to transmit the cell data of the cells thereto. Bottorf discloses *Scrolling Image Memory for High Speed Avionics Moving Map Display* that teaches a navigation system for a vehicle that determines which map data blocks/cells to request from a map memory storage based on the state of the vehicle at the time for efficient retrieval and display of the map data that would keep up with the needs of the vehicle navigation operation (col2 63-68 and col3 1-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Ellis according to the teachings of Bottorf to retrieve the needed blocks/cells of map data as needed based on the vehicle state, and furthermore to determine which range of cells of map information to request in the vehicle terminal instead of in the transmitting server so that in a system where multiple vehicle units are asking for map data at the same time, computation load on the transmitting server would be reduced and would prevent the delay of information availability.

Regarding claim 3, Ellis discloses all of the claimed limitations. The claimed vehicle state information including a proceeding direction of the vehicle is met by the system using the velocity of the vehicle as part of the vehicle state information (col2 14-22). Velocity is defined as speed and direction and would therefore inherently include the direction of the vehicle. However, Ellis did not specify the claimed vehicle terminal determining the range of cells of which cell data are required according to the proceeding direction of the vehicle. Bottorf teaches the vehicle terminal determining which blocks/cells to request from the map memory storage based on the direction of

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the vehicle (col2 62-68, col3 1-64 and fig. 3). The device of Ellis uses the transmitting server to determine which maps to transmit to the vehicle terminal, in a system where multiple vehicle units are asking for map data at the same time, the transmitting server would be slowed down and the response of the needed information to the vehicles would be delayed. By modifying the device of Ellis to compute the needed map blocks/cells in the vehicle terminal it would reduce the computation load on the transmitting server and would prevent the delay of information. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Ellis according to the teachings of Bottorf to compute the needed map blocks/cells in the vehicle and request that data from the transmitting server.

Regarding claim 8, the claim is interpreted and rejected as claim 1 stated above.

Regarding claim 10, the claim is interpreted and rejected as claim 3 stated above.

3. Claims 5, 7, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis in view of Bottorf and further in view of Saeki et al (Saeki; US Patent 6,320,518).

Regarding claim 5, Ellis and Bottorf disclose all of the claimed limitations except for the claimed vehicle state information including a scroll direction of the vehicle

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terminal and the vehicle terminal determining the range of cells of which cell data are required according to the scroll direction of the vehicle terminal. Saeki discloses *Map Data Transmitting Apparatus, and Computer Readable Recording Medium Having Computer Readable Programs Stored Therin For Causing Computer To Perform Map Data Transmitting Method* that teaches a vehicle navigation device that determines the particular map blocks/cells that are needed based on the scroll direction of the vehicle terminal (col16 16-67 and col17 1-33). Modifying the device of Ellis and Bottorf to allow the device to determine the range of blocks/cells that are to be requested from the transmitting server based on the scroll direction of the vehicle terminal would allow the user to navigate the map system by scrolling and plan trips by looking beyond the current map blocks/cells that are displayed in the vehicle terminal. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Ellis and Bottorf according to the teachings of Saeki to include the scroll direction of the vehicle terminal as one of the possible vehicle state information variables.

Regarding claim 7, Ellis and Bottorf disclose all of the claimed limitations except for the claimed vehicle state information including a transmitting speed of a wireless network, and the vehicle terminal determining the range of cells of which cell data are required in proportion to the transmitting speed of the wireless network. Saeki teaches a vehicle navigation system with a transmitting server that transmits map block/cells in proportion to the measured speed of the communication medium that is being used for

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transmission (col 11 38-41). Modifying the device of Ellis and Bottorf to transmit blocks/cells from the transmitting server in proportion to the speed of the communication medium would reduce potential delays in the map blocks/cells that are being transmitted to the vehicle terminal by sending fewer cells when the network is busier. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Ellis and Bottorf according to the teachings of Saeki to include the transmitting speed of the wireless network as one of the possible vehicle state information variables.

Regarding claim 12, the claim is interpreted and rejected as claim 5 stated above.

Regarding claim 14, the claim is interpreted and rejected as claim 7 stated above.

4. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis in view of Bottorf and further in view of Schroeder (US Patent 6,694,253).

Regarding claim 15, Ellis discloses the following claimed subject matters:

The claimed network interface for communicating with the map data transmitting server is met by the transceiver (fig. 4);

The claimed receiver for gathering vehicle state information is met by the processor (fig. 4 and col2 14-22);

The claimed network interface for transmitting data through the wireless network is met by the transceiver (fig. 4);

The claimed display device for displaying the received map is met by the display (fig. 4);

However, Ellis did not specify the processing unit determining a range of cells of which cell data are required based on the vehicle state information and processing map data received through the network interface. Bottorf teaches a navigation system for a vehicle that determines which map blocks/cells to request from a transmitting server based on the state of the vehicle at the time (col2 63-68 and col3 1-64). The device of Ellis uses the transmitting server to determine which map blocks/cells to transmit to the vehicle terminal, in a system where multiple vehicle units are asking for new map blocks/cells at the same time, the transmitting server would be slowed down and the response of the needed map blocks/cells to the vehicles would be delayed. By modifying the device of Ellis to compute the needed map blocks/cells in the vehicle terminal it would reduce the computation load on the transmitting server and would prevent the delay of information. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Ellis according to the teachings of Bottorf to compute the needed map blocks/cells in the vehicle and request that data from the transmitting server.

However, Ellis did not specify the claimed memory for storing the received map data. Schroeder discloses *Navigation Device For Receiving Satellite Broadcast Distribution Of Map Data* that teaches utilizing a memory that stores map data transmitted from a transmitting server (col1 54-61). Adding a memory to the device of Ellis would allow the map blocks/cells to be stored in case of future use, the system would be able to check to see if the map blocks/cells are stored in local memory before asking the transmitting server to transmit the map blocks/cells and would therefore save time when transmission is unneeded. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Ellis according to the teachings of Schroeder to add a memory to store the map blocks/cells transmitted from the map server.

Regarding claim 16, Ellis, Bottorf and Schroeder disclose all of the claimed limitations. The claimed vehicle state information including one or more of a vehicle speed, a proceeding direction of the vehicle, a scroll speed of the vehicle terminal, a scroll direction of the vehicle terminal, a road classification, and a transmitting speed of the wireless network is met by the system using the velocity of the vehicle as part of the vehicle state information (Ellis: col2 14-22). Velocity is defined as speed and direction and would therefore inherently include the direction of the vehicle.

Allowable Subject Matter

5. Claims 2, 4, 6, 9, 11 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Katayama et al. *Map Information System For Moving...* US Patent 6,675,092

Hatano, *Navigation System, Navigation Information...* US Patent 6,532,417

Nakamura, *Current Location Indication Apparatus...* US Patent 4,660,037

Shiihara, *Positioning System...* US Patent 5,541,592

Chun, *Method And...* US Patent Application Publication 2004/0128068

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis R Hunnings whose telephone number is (571) 272-3118. The examiner can normally be reached on 8:00 am - 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRH


BENJAMIN C. LEE
PRIMARY EXAMINER